

$V=4\text{m/s}$

$M=m_1+m_2=45+75=120\text{kg}$

By the law of saving energy:

$$m \frac{v^2}{2} = M \frac{u^2}{2}$$

where $m=120\text{kg}$ - mass of J&J, $M=15\text{ kg}$ - mass of crate, $v=4\text{ m/s}$

u - unknown speed of crate

So we have $u = \sqrt{m/M} = 4 * \sqrt{120/15} = 8\sqrt{2} \text{ m/s}$

Answer $8\sqrt{2} \text{ m/s}$